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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/594,442

06/19/2007

Hironori Yamamoto

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03/25/2010

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EXAMINER

KIM, JAY C

ART UNIT

PAPER NUMBER

2815

NOTIFICATION DATE

DELIVERY MODE

03/25/2010

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentmail@whda.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/594,442	<b>Applicant(s)</b> YAMAMOTO ET AL.	
	<b>Examiner</b> JAY C. KIM	<b>Art Unit</b> 2815	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 November 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2 and 5 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 6 and 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/26/06</u> . | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This Office Action is in response to Application filed June 19, 2007.

#### ***Election/Restrictions***

1. Applicants' election without traverse of Species I in the reply filed on November 25, 2009 is acknowledged.

#### ***Claim Objections***

2. Claims 1, 3, 4 and 6 are objected to because of the following informalities:

On line 2 of claim 1, "by etching on a surface of a substrate of layered PN layers" should be replaced by "by etching of layered PN layers on a surface of a substrate".

On line 2 of claims 3 and 6, "a" should be inserted before "light-blocking".

In claim 4, "a pair" should be replaced by "another pair" on line 5, "a" should be inserted before "wraparound" on line 9, "the pair" should be replaced by "said another pair" on line 10, and "provided to each surface" should be replaced by "formed on said each surface" on line 11.

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4. Claims 1 and 2 are rejected under 35 U.S.C. 102(b) as being anticipated by Shibata et al. (US 2002/0070383).

Regarding claim 1, Shibata et al. disclose a light-emitting diode array (Figs. 1E and 3) comprising a plurality of platform-shaped light-emitting units (10 in Fig. 1E and Fig. 4) ([0047] and [0048]) formed so as to be isolated from each other on a surface of a substrate (1) (lines 1-2 of [0042]), wherein in each of the plurality of platform-shaped light-emitting units (10 and Fig. 4) formed so as to be isolated from each other, corners of the light-emitting units having a substantially square shape as viewed from above are provided with a beveled shape (lines 1-2 of [0046]).

The limitation “by etching” “of layered PN layers” is a product-by-process limitation that does not structurally distinguish the claimed invention over the prior art, because a light emitting unit shown in Fig. 4 comprises PN layers. Note that a product by process claim is directed to the product per se, no matter how actually made, *In re Hirao*, 190 USPQ 15 at 17 (footnote 3). See also *In re Brown*, 173 USPQ 685; *In re Luck*, 177 USPQ 523; *In re Fessmann*, 180 USPQ 324; *In re Avery*, 186 USPQ 161; *In re Wertheim*, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); and *In re Marosi et al*, 218 USPQ 289, all of which make it clear that it is the patentability of the final product per se which must be determined in a product by process claim, and not the patentability of the process, and that an old or obvious product by a new method is not patentable as a product, whether claimed in product by process claims or not. Note that applicant has the burden of proof in such cases, as the above case law makes clear.

Regarding claim 2, Shibata et al. further disclose that the beveled shape of the corners is a round-beveled shape.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shibata et al. (US 2002/0070383) in view of Chosa et al. (US 6,219,074). The teachings of Shibata et al. are discussed above.

Shibata et al. differ from the claimed invention by not showing a printer head characterized in comprising as a light source the light-emitting diode array according to claim 1 or 2.

Chosa et al. disclose a printer head (Fig. 1) characterized in comprising a light source of a light-emitting diode array (4) (col. 9, lines 15-16).

Since both Shibata et al. and Chosa et al. teach a light-emitting diode array, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the light-emitting diode array disclosed by Shibata et al. with the printer head disclosed by Chosa et al., because a light-emitting diode array disclosed by Shibata et al. can be used as a light source in manufacturing a printer head.

***Allowable Subject Matter***

7. Claim 4 is allowed after correction to overcome claim objection stated above.

Kanzawa et al. (US 4,984,035) disclose all the limitations of claim 4 in Fig. 12 except for limitations "each of four corners of said four peripheral side surfaces is beveled" and "an electrode is also formed in a wraparound fashion near corners of each surface tilted inward from top to bottom of said another pair of opposing side surfaces".

8. Claims 3, 6 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAY C. KIM whose telephone number is (571) 270-1620. The examiner can normally be reached on 7:30 AM - 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Parker can be reached on (571) 272-2298. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. K./  
Examiner, Art Unit 2815  
March 18, 2010

/Jerome Jackson Jr./  
Primary Examiner, Art Unit 2815